App. F. IX-4

Previous References. 1946-47 (ESC-7)

File No. 11-46

Serial Nos. 23

Later References.

PRESERVED

GENERAL AND REVENUE SECRETARIAT

Serial Nos. One

Part B for July 47.

SUBJECT

Assistant Draftsmen.

No. PW. 624-8 dated 11.7.1947

To The Ch. Engr. Irn.
" Ch. Engr. R+B.
" Supdt. S.J.O.I.
" Comptr.
" Audits / PWD. } Rtn to J.O.
" P.S. Commr.

Sanctions the grant of an initial pay of Rs 50/- to the Diploma Holders as Civil Draftsman Ship of the S.J.O. Institute when entertained as ——

5626 Fixing of minimum pay of Candidates who have passed the Diploma Exe in Civil Draughtsmanship in Govt

JOI 46-46

Sri) Letter no 4128 dt 24/4/47 from the Superintendent Govt I recommending for reasons stated that the Diploma holders in Civil Draughtsmanship of this Institute be treated on a par with those of Govt School of Engineering and given the same starting pay viz Rs 50 PM as in the case of Diploma holders of Civil Engineering of Govt School of Engineering Pimpalwa.

The Superintendent states that the Diploma Course in Civil Draughtsmanship includes all subjects prescribed for Diploma Course in Civil Engineering conducted in the School of Engineering Pune, and in addition intensive training is given in design architectural draughtsmanship & estimating. Thus it is stated that the students who pass out of this Institute in this subject are on a par with the students of Govt School of Engineering and even better Qualified. As these students though entitled to the same benefits, are it is learnt, started on a lower pay than those of Govt Engineering School. The Superintendent states that on account of the inequality in the pay offered to them many students of this Govt I are going out of the State and accepting jobs in the Bombay Govt, G I P Railways. Where they are offered higher pay

2/11 " In view recommend that the Diploma Holders in the Civil Draughtsmanship of this Institute, may be treated on

have been given effect to in Engineering and
given the same starting pay as is now
in the case of Diploma holders of Civil Engineering
Bangalore
Govt for orders
16/4/47 BR 3 The Chief Engineer for Roads &
Buildings may be consulted in the matter
unofficially.

Edn. Secy
4 Yes
16/4/47
16/4 BS
B 309
28/4/47

G.O. No. 210/46. dated 28.4.47.
Forwarded with compliments to the Chief
Engineer for Roads and Buildings in Mysore
Bangalore, for o/ w/cr

By order
Rajaiah
for Secretary
Govt of Mysore

Bangalore
D/18/4/47.

M.M. 9/106 26/4/47
6 CE 2 with compliments
for favour of opinion

1205 26/4/47

V. Rao
G.O. No 382, dated 8.5.47. 23/4/47
23/4/47 Diploma Course in Civil Draftsmanship from the
26/4/47 Departmental Institute has to be treated as equivalent
to the Diploma from the School of Engineering, Bangalore,
as can be judged from the subjects covered in both the
cases. The Diploma Holders are started on Rs 50/- &
similar pay may be granted to these candidates.
Proposal for the revision of Scale of Pay of Draftsman
Cadre has been forwarded to the Pay Commission and
their recommendations is awaited.
Future recruitment to the cadre of Draftsmen may
be made from Diploma Holders in Civil Draftsmanship
from the Departmental Institute as well.

4306
Govt
8/5/47
Secy to Govt.
Secretariat Dept.
With compliments

7/5/47

5626
E

8 The chief Secretary to Govt. has recommended that the proposal of the Principal, Govt. to treat the Diploma Holders in Civil Engineering Draughtsmanship of the said Institute on a par with those of the School of Engineering and to give them the same starting pay Viz. Rs 50/- pr may be sanctioned

9 Reference: para 2 Supra

9/5/47 Secy. 9/5/47

4344 9/5/47

G.O. No. 221/46, dated 10-5-47 forwarded with compliments to the Vice-chancellor, the Mysore University for favour of remarks.

K. Chitty
Govt Secy. 10-5-47

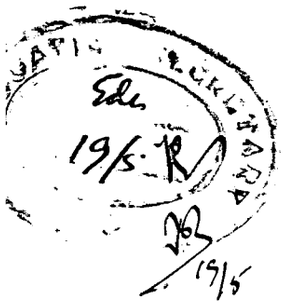
10/5

D.T.O.

Minimum pay of students of Civil Draftsmanship in Sri JOI

JOI 46-46. 5626/E

Returned with compliments.



1) I have ascertained that the Diploma Course in Civil Engineering of the School of Engineering, Bangalore and the Diploma Course in - Civil Draftsmanship of the Sri Jayachamarajendra Occupational Institute, Bangalore are almost identical. In view of this, there should be parity between the two courses in respect of the starting pay of the Diploma holders in Government service

2) Incidentally, it must be mentioned that this is a case of duplication in the Occupational Institute under a different name of a course already provided in the School of Engineering.

M. S. Nisargadda
Vice-Chancellor.

Camp: Bangalore,
17th May 1947.

3) In view of the opinion expressed in paras 7, 11 & 12, the proposal of the Superintendent to give a starting pay of Rs 50 to the Diploma Holders in the Sri JOI is forwarded

19/5/47

4) The recommendation of the Supdt. Sri J.O.I may be sanctioned.

Edn. Secy 21/5

5) How can we fix the pay? At best we can say that the two courses are equivalent. The question of pay is matter to be settled at the time of appointment by the Commissioned Dept. Or it not?

22/5/47

5626/E

There are 2 points here for consideration and orders by the Inspector of the Institute viz

1) Treating the Diploma Holders of the Institute (in civil draughtsmanship) on a par with those of the School of Engineering, and

2) To grant the Diploma Holders Rs 50/- which is the grant given to those in the School of Engineering.

The chief Engineer has agreed to treat the Diploma Holders of the Institute as equal with those of the Engineering School and also to give them the same pay. The question of fixing the scale of their pay is before the Pay Commission. As the employment of these Diploma Holders is a matter concerning the P.W.D. this question may be transferred to the P.W. Secretariat for issuing orders. There is no point on which the Education Branch has to do further work in this matter.

Reference: para 15 of Letter

4/6

4/6

P.W. SECRETARIAT
670/
Date 10/6/41

Scy. pro
M C

4/6

4/6

Sd/) Orders treating the diploma

Buy 10/6/41.

holders in Civil Draughtsmanship of the Sri Jaya Chamarajendra Occupational Institute ~~are equivalent to~~ on a par with the diploma holders of the School of Engineering will have to issue in the Education Branch. After the orders are issued, the question of starting the diploma holders of the Institute on Rs 50/- will be taken up in the PW Branch.

B 14/6/47 PWD 16/6/47

The diploma course in Draughtsmanship of the Occupational Institue includes all the subjects of study prescribed for the Diploma Course in Civil Engineering of the School of Engineering, Bangalore.

There being no difference in a) the qualification for admission, b) the period of training and c) the subjects taught, the Chief Engineer for Roads and Buildings and the Vice-Chancellor of the Mysore University have both agreed in unequivocal terms That the Diploma of both the institutions should be treated as identical and that there should be parity in the starting ~~salary~~ scale of pay.

B

The starting pay of The Diploma holders in Civil Draughtsmanship of the Occupational Institute may perhaps be fixed up as Rs. 50/- on a par with the Diploma holders in Civil Engineering of the School of Engineering subject to revision of pay as per Orders of Govt. on the report of the Pay-Commission.

A

Secy.) HPS 17.6.47

Pay of Candidates who have passed the diploma Course in Civil Draftsmanship of T.C.I.

Public Works Secretariat | File No. [illegible] of 194 | App. F. III–2

Serial No.

A may be approved for the diploma Holders of the occupational institute in view of the B. as noted in the previous page.

Minister Ag and P.W.S. and Diwan through Sec'y) Pay 18.6.47

HPS 18.6.47

19.6.47.

Pay 20.6.47

HPS 20.6.47

The C.E. R & B. has no objection for accepting the proposal. It may be approved.

22/6

Diwan).

Pay 23.6.47.

HPS 23.6.47

Pay 25/6/47

HPS 25.6.47

Submitted with a draft Issue

1/7/47.

HPS 2.7.47

Pay 3.7.47

1/7/47

NOTE—Contn. Sheet.

24 JUN. 1947 No. 9575

FINANCE DEPARTMENT C.O. 8745 19/6 BANGALORE

PUBLIC WORKS DEPARTMENT 21 JUNE 1947 No. 9762

File No. of 194 . | Public Works Secretariat

Serial No.

Fl. commn. No. 178.

P/s. has agreed. Draft & issued.

Sd 11/7

Sd 12/7

No. PW 624-28/ESI-11-46-23 dated 11.7.47

To the Ch. Engr. for Bom.

" Ch. Engr Rtn.

" Supdt- S.J.O.I.

" Comptr

" Auditor P.W.D. } Thro F.O.

" P.S. Commr.

Sanctions the grant of an initial pay of Rs55/- to the diploma holders in civil draftsmanship of the S.J.O. Institute when entertained as Asst- Draftsmen.

C. F. No. 45]

GOVERNMENT OF MYSORE

Tele gram / phone

No. H128

Encls. One

OFFICE OF Superintendent, BRANCH

Sri Jayachamarajendra Technical Occupational Institute, Bangalore.

Date 1st April 1947.

To

K. Thipperudriah, Esq., B.A.,
Secretary to the Government of Mysore,
Education Department, Bangalore.

Sir,

Subject:- Fixing the minimum pay of candidates who have passed the Diploma Course in Civil Draughtsmanship in the Occupational Institute.

Adverting to Government Order No: E.1794-98/R & P.S. 50-45-2 dated 9th August 1946 directing that the students who pass out of this Institute after completing their Diploma Course in Civil Draughtsmanship are eligible for appointment as Draughtsmen in all offices of the State, I have the honour to state that the Diploma course in Draughtsmanship of this Institute includes all the subjects prescribed for the Diploma Examination in Civil Engineering conducted in the School of Engineering, Bangalore, viz., Surveying, Building Construction, Irrigation, Roads, Bridges, Water-supply and Sanitary Engineering and in addition, intensive training is given in design, architectural draughtsmanship and estimating. The students who pass out of this Institute with Diploma in Civil Draughtsmanship would not only have attained the same standard of knowledge and efficiency as those passing out of the School of Engineering, but also in drawing, architecture and estimating which are essential for working in a drawing office. A copy of the syllabus followed in this Institute is enclosed herewith for the kind perusal of Government.

I may add that the first batch of students who passed out of this Institute in 1946 after completing their course in Civil Draughtsmanship have been successfully employed both as draughtsmen, surveyors, supervisors of construction works, designers and estimators in the several departments of Government in the State, G.I.P. Railways and other similar departments outside the State and they have been reported to be doing very good work. It is however, learnt

that the diploma holders of this Institute are started on a lower pay than those of the Engineering School. In fact the Diploma holders of the Mechanical Institute ought to be offered a higher pay as they are specialised in the particular subjects required for drawing offices. On account of inequality in the pay offered to them, many of the students of the Institute are going outside the State and accepting jobs in the Bombay Government, G.I.P. and other Railways where they are offered much higher salaries.

In the above circumstances, I recommend that Government may be pleased to treat the Diploma Holders in Civil Draughtsmanship of this Institute on a par with those of the School of Engineering and given the same starting pay, viz., Rs.50/- per mensem as in the case of Diploma holders of Civil Engineering of the School of Engineering, Bangalore.

I have the honour to be
Sir,
Your most obedient servant,

D. S. Venkannaya
Superintendent.

mvr/-

SRI JAYACHAMARAJENDRA OCCUPATIONAL INSTITUTE, BANGALORE.

(GOVERNMENT OF MYSORE).

"CIVIL DRAUGHTSMANSHIP AND ESTIMATING".

PROSPECTUS.

A special course is introduced to train candidates in Civil Draughtsmanship. There has been a great dearth of qualified draughtsmen who can prepare neat and accurate drawings. This is particularly marked in the Civil Engineering profession. The object of the present course is to obviate this difficulty now experienced in engineering professions by imparting intensive training in all branches of draughtsmanship and in the preparation of suitable designs to specifications furnished. Special training will also be given to enable candidates to read Blue Prints and to properly interpret drawings which form an integral part of the engineering profession.

Qualification for admission.—The minimum qualification for admission is a pass in the S.S.L.C.

Period of Training.—Three years.

Age.—Candidates should not be less than 15 years of age.

Physical Fitness.—Candidates should be physically fit and of normal health.

Number of students to be admitted.—10.

Fees.—A fee of Rs. 25 per term or Rs. 50 per year will have to be paid by Mysoreans. Non-Mysoreans will be required to pay Rs. 50 per term or Rs. 100 per year. The fees should be paid in one instalment at the commencement of each term in July and January of each year, when the terms commence.

SYLLABUS.

The following are the subjects taught :—

First Year.

An elementary knowledge of the fundamentals of (i) Physics, (2) Elementary Mathematics, (3) Nature o materials of construction, (4) Methods of Building Construction, (5) Surveying, (6) Drawing and Estimating, (7) Workshop.

Second Year.

(1) Applied Mechanics and Graphics, (2) Hydraulics, (3) Building Construction, (4) Architecture, (5) Road Engineering, (6) Bridge Engineering, (7) Reinforced cement concrete construction, (8) Structura Design and Drawing, (9) Drawing and Estimating, (10) Workshop.

Third Year.

(1) Structural design and Drawing, (2) Reinforced Cement Concrete Construction, (3) Irrigation Engineering, (4) Sanitary Engineering, (5) Municipal Engineering and Town Planning, (6) Water Supply, (7) Railway Engineering, (8) Estimating, (9) Specification Contracts etc.,

DETAILED SYLLABUS

(1) Mathematics.

ALGEBRA.

Theory of Indices.—Fractional and negative index. Irrational expressions and surd numbers. Rationalising surds. Rationalising factors, Common Logarithms. Ratio and Proportion. Variation Quadratic Equations.

GEOMETRY.

Properties of circles. Geometrical equivalents of Algebraic formulæ in connection with straight lines and triangles. Rectangles in connection with circles, similar triangles.

Solid Geometry.—Lines and Planes. Dihedral angle. Solid angles.

Trigonometry.

Measurement of angles. Trigonometric ratios. Relation between ratios. Solution of right angled triangles. Radian measure. Ratios of angles of any magnitude. Functions of compound angles. Simple solution of triangles.

Mensuration.

Units of length and relation between them. Deduction of corresponding units of area and volume. Determination of sides and areas of right angled and oblique triangles. Regular and Irregular polygons, circles, segments and sectors.

Simpson's rule and practical application. Areas of ellipse.

Determination of the volumes of cubes, Rectangular parallelopiped, prisms, pyramids, cylinders, cones and spheres.

(2) Physics.

Fundamental units of length, mass and time, Comparison of masses. Balance. Method of weighing.

Volumes.—Density, Principle of Archimedes, Specific gravity, Density of liquids and gases. Hydrometer.

Velocity.—acceleration and displacement. Resolution and composition of velocities and accelerations. Momentum: force, energy, work and power. Newton's Laws of Motion.

Statics.—Equilibrium of bodies acted on by coplanar forces. Parallelogram of forces, Resolution and composition of forces. Centre of Mass. Simple machines. Friction.

Heat.—Temperature and measurement. Specific heat, Capacity for heat. Latent heat, Calorimeters.

Expansion of solids. Dilatation of liquids and gases, Change of state.

Transmission of heat by conduction, convection and radiation.

Mechanical equivalent of heat.

Theory of Heat Engines. Isothermal and adiabatic expansions.

(3) Materials of Construction.

(*a*) Stones.—Various kinds of stones, their classifications, characteristics and suitability for building purposes, paving, road making, etc. Quarrying by different methods, burning and blasting slabs, size stones, rubble and jelly; Natural bed of stones; Explosives used in blasting and precautions to be taken in blasting; Dressing of stones for different works. Artificial stones and preservation of stones.

(*b*) Bricks.—Brick earth, various methods of making bricks and their burning, clamps and Hoffmanns kiln, composition, characteristics and suitability of bricks for building purposes. Tests for good bricks.

(*c*) Tiles.—Their manufacture, characteristics and suitability as a building material, standard tests for tiles.

(*d*) Terra Cotta.—Manufacture, characteristics, composition and uses.

(*e*) Stoneware and Earthenware.—Manufacture, composition, characteristics and uses.

(*f*) Timber.—Various kinds of timber, defects in timber, seasoning and preservation, strength, selection of timber for structural purposes, floors, furniture and permanent way, conversion of timber.

(*g*) Iron and Steel.—Cast iron, wrought iron and steel, elementary knowledge of their manufacture, their characteristics, strength and standard tests and uses. Standard sections, preservation of iron. British standard specifications for structural steel.

(*h*) Limes and Cements:—Limes—classification, burning of lime-stone. Lime kilns, slaking and setting, Hydraulic lime—its manufacture. characteristics and uses of it. Cements.—Puzzolana, Roman and Portland cement. Elementary knowledge of cement manufacture. characteristics, standard tests and uses of different kinds of cements. British standard specifications for portland cement.

(*i*) Sand.—Different kinds and their characteristics, requirements for different uses.

(*j*) Mortars.—Different kinds of mortars, proportion and mixings, characteristics, their strengths and uses, precautions in using.

(*k*) Concrete.—Definition, uses, different kinds of concrete, their characteristics and strengths and suitability in different situations. aggregates, their uses and their requirements, proportioning and mixing; precautions to be taken thereon. Water cement ratio; laying concrete in different situations, precautions to be taken in laying concrete under water for foundations of bridge piers, abutments, etc., and under water-free conditions such as foundations of buildings, walls, floors, etc., fire and water tests, slump tests.

(*l*) Reinforced cement concrete.—Compositions, mixing and laying, strength and use.

(*m*) Asphalt.—Definition, composition, characteristics, varieties and their uses, precautions in using.

(*n*) Paints and varnishes.—Paints, definition, composition, base, inert filler, vehicle, solvent, drier, etc; different kinds of bases commonly used in building work; mixed and ready mixed paints; painting of wood work and steel structures. Varnishes. Definition, compositions, varieties and their uses; precautions to be taken in using paints and varnishes.

(*o*) Glass. – Composition, varieties and uses.

(4) Building Construction.

(*a*) Foundations.—Bearing power of different soils, typical foundation sections in ordinary soil, soft soil and on rock; Grillage, raft, and pile foundations; their descriptions and use. Typical bridge foundation, well foundations and foundations for machines; Shoring, centering and underpinning.

(*b*) Brick work.—Tools used; bonds, damp proof courses, scaffolding arches, flues, fire places and chimneys; safe loads on different kinds of brick work.

(*c*) Masonry.—Different types of masonry, blocking course, rubble and ashlar work, joints, lifting arrangements and appliances, composite walls, arch work.

(*d*) Pointing.—Various methods and types of pointing and materials used.

(*e*) Wood work.—Simple joints in carpentry and joinery, doors, windows; trusses, floors and partitions.

(*f*) Stairs.—Wooden, stone, brick, R. C. C. and steel construction. Different types of stairs, common terms

used in stair construction. General principles of designs.

(*g*) Domes and Vaults.—General principles of construction of masonry, brick work,and reinforced cement concrete, domes and vaults.

(*h*) Pillars, columns and their designs.

(*i*) Roofs —Wooden roofs, iron and steel roofs, terraced roofs, various kinds of flat roofs, jack arch, Madras terrace, etc., and sloping roof, hip and valley construction, design of various types of roof trusses.

(*j*) Floors.—Brick on edge, tiled floor, timber floor, patent stone, mosaic floring and kadapa slabs, and cement flooring.

(*k*) Plaster in lime and cement.—Tools and appliances used, lathing stucco, fibrous plaster, rough cast, pebble dash, water proof compounds and Madras chunam plaster, moulding and casting, white-washing and distempering.

(*l*) Masonry structures.—General principles of construction and design of masonry structures such as retaining walls, arches, domes, vaults, etc.

(*m*) General principles of design of buildings.—Type design of quarters built for different departments, construction of school buildings, travellers bungalows, inspection lodges, bus-stands, rest houses, hospitals, public halls, market places, etc. Layout of residential houses, construction of porticos, facades and cornices, etc.

(*n*) Sanitation, water supply and lighting arrangements for a dwelling house, for public building, etc.

(*o*) Fire proof construction in floors and roofs.

(5) Architecture.

im and importance of architecture, architecture as a fine art.

listory of Architecture.—Origin of Architecture : Development of architecture in the East : Recent excavations at Mohanjo Daro, and other places, Jain, Buddhists, Hindu and Muslim Styles; and in the West; Egyptian, Babylonian, Grecian, Roman and Byzantine Styles. Medieval, Renaissance and Modern styles. Measured Drawings, notes, etc.

Architectural Designing : Of different kinds of stuctures. Preparation of perspective sketches, detailed drawings and rendering them in colour.

Freehand sketching of existing structures ;

Shades and shadows.

(6) Surveying.

(*a*) Chain Surveying.—Equipment, measurement of a line, errors in ordinary chaining, principles of chain surveying, field work, note keeping, field problems, cross staff, optical square, prism square and range finder, plotting field work.

(*b*) Compass surveying.—Equipment, prismatic compass, surveyor's compass, military compass, bearings, compass traversing, co-ordinates, survey adjustment magnetic dip and declinations, local attraction, sextant.

(*c*) Plane table surveying.—Equipment, plane table, alidades, trough compass, and plumbing fork, field work, systems of plane tabling, two-point and three point problems, vertical control, field methods, error in plane tabling, survey adjustment, town survey.

(*d*) Levelling.—Equipment, levels of different types and levelling staves of different patterns, principle of levelling, booking and reduction of levels, field work, longitudinal and cross sections, setting out levels, sources of error, stadia method of contouring, reciprocal levelling, clinometers, hand level and Ghat tracer.

Contouring and contour plans.

(7) Elementary Hydraulics.

Laws: Pressure at a point, Pressure on a surface, Equal transmission of pressure and atmospheric pressure, Specific gravity, Flotation, Hydro-dynamics: Laws, Practical cases of discharges from Orifices. Notches, Sluices, Weirs, flow of water in pipes and channels, Flow through bridge openings afflux and formulæ connected therewith.

(8) Reinforced cement concrete.

Definitions, materials used, cement, sand and aggregate, their proportioning and mixing, different proportions used for different situations and their characteristics, Reinforcements, their nature and use. Advantages and disadvantages

over other methods of construction, Standard designs o one-way and two-ways reinforced slabs, Single and double reinforced beams, Continuous beams, T. beams, Columns and retaining walls. Designs of form work. R. C. C. piles and Grillage foundation, Water tanks, and towers and reservoirs etc. Study of data and drawing specification for reinforced cement concrete works and detailed drawings for bending of reinforcements.

(9) Road Engineering.

Different methods of Road constructions and maintenance with necessary specification and data and Estimates

(10) Bridge Engineering.

Drawings of type design of cross drainage works: Selection of site, foundations, water way, etc., cause ways.

(11) Irrigation.

Different types of irrigation, flow and lift irrigation: comprehensive idea of rainfall, run off, flood discharge and duty. Head works—Reservoir construction such as Earthen bunds for major and minor tanks and their restoration: Rules guiding their design saturation. Gradient, Elementary Profile of an Earthen bund, Details of Masonry Dams.

Distribution Works.—Thumb rule design for channels and typical Sections in various soils and in full bank, full cutting and partial cutting, etc., detailed drawings of canal regulators, irrigation sluices, head regulator and type designs of cross drainage works.

(12) Sanitary Engineering.

Preparation and study of village and town plans based on contours : with particular reference to surface and underground drainage and various data to be collected. Size gradient and velocity in sewers, drawings of various kinds of sewers and preparation of drawings of the drainage system based on contours.

House Drainage.—Detailed drawings of water closets, taps, sinks, lavatories and preparation of drawing for drainage system for dwelling houses.

Detailed drawings of septic tank and filters and mode of disposal of sewage.

(13) Water Supply.

Wells, borewells, development of water works and general principles of economic construction and arrangement

and maintenance of several works connected with the water supply distribution system. Purification of water, rapid and slow sand filters Patterson and jewel filters.

Detailed set of drawings of pumping plant and distribution works and also drawings for the inside pipe line connections for domestic water supply.

14. Town Planning and Municipal Engineering.

Study of the existing plans of towns and villages, general principles.—City as determined by the natural features, by streets, and allocations of areas for different classes of buildings. parks, open spaces, play grounds, etc.

15. Railway Engineering.

General ideas regarding Indian Railways, their gauges, permanent way, ballast, sleepers, chairs, rails of different patterns, points and crossings and signals.

16. Applied mechanics and graphics.

Stress, strain and elastic constants, Normal and shear stresses, Poison's Ratio, Young's Modulus. Elastic limit, Yield point, Ultimate stress, Factor of safety, Ductility, Load due to impact, Thick and thin cylinders.
Centroids, moments of Inertia.

Bending moments and shearing forces, Freely supported beams, cantilevers.

Stresses in bending, Theory of simple bending; Practical applications.

Springs.—Volute spiral and carriage.

Torsion.—Strength of shafts.

Graphic statics.—Triangle and polygon of forces, link and funicular polygon, graphical and analytical method of solving a system of forces, force diagrams Dead and wind loads, bending movement and shear force diagrams, simple roof trusses and structures, continuous beams and bridge girders, earth pressure, wedge theory, stresses in retaining walls, arches and dams, and their design.

17. Drawing and Estimating.

Drawing.—Principles of draughtmanship ; (*a*) freehand and model drawing.

(*b*) Isometric and Perspective drawing.

(*c*) Geometrical Drawing :

Plane Geometry : Triangles, Quadrilaterals, Circles, Drawing of Ellipse, Parabola, Hyperbola, Cycloidial curves, Involute of a circle, Spiral, Helix and explanations of their chief properties.

Solid Geometry.—Projection of points, straight lines and planes, projections of simple solids such as prisms, pyramids, cylinders and cones in various positions and with alterations of ground line; sections of solids, true shapes of sections and development of surfaces.

Interpenetration of solids.—Intersection of two cylinders, a cylinder and cone, a prism and a pyramid, a prism and a cone, Development of plane and curved surfaces.

(*d*) Architectural drawing.—Use of different kinds of scales; conventions adopted in architectural drawings, mouldings, Orders of architecture.

(*e*) Other Drawings.—Preparing drawings of bridges, culverts, water-tanks, towers, irrigation works, etc.

(*f*) Estimating—

taking out quantities for the various items of a structure and estimating the cost of the same. Theory of rates and calculation of rates, etc.

18. Specification and data collection.

Drawing up of specification with regard to the quality of materials and details of construction of (*a*) Buildings, (*b*) Railway, (*c*) Road, (*d*) Irrigation, (*e*) Water Supply, (*f*) Sanitary Engineering works and (*g*) R. C. Construction.

Earthwork.—Volumes by spot levels and contours—Prismoidal formula; Mass diagram, Haul and overhaul. Lead and lift, general principles of working out the costs of items of work.

Government contract agreements.—General conditions of contract and their bearing on the responsibilities of the Engineer. Departmental procedure, Drawing up of departmental reports, general idea of the System of Public Works Accounts.

Contract work.—Scrutiny of plans, preparation of tenders, earnest money, period specified, Municipal

license, control and organisation of labour, Maintenance of accounts.

16. Workshop.

Sketching scale models of various Engineering Works such as roof trusses, bridges, structural pieces and joints, etc., in a Museum containing graded series of models of structural pieces occurring in various branches of Engineering and lessons in sketching.

Structural Engineering.—Design and drawing of various members of roof trusses, columns and beams of steel as well as of wood and drawing of the various joints, etc.

W D 148—GPB—200—5-5-45

6701 pm. 2

G. R. S. App. F VI—G. 8]

SUBJECT..... Pay of Candidates who have passed the Diploma Course in Civil Draftsmanship of IIC

P.W. 624-8
2/11-7-47

Section E&T
File No. 11-46
Serial No. 23

Diary No. of letter replied to .....

General and Revenue Secretariat

( )

the *19*

Proceedings of the Government of His Highness the Maharaja of Mysore.

Date of issue.....11-7-47.....19

Signed by..... Dr. HPS

Read—

G.O. No. P.W. 6295-310/E&T 19-45-12 dated 27-3-1946 sanctioning among other things, the grant of an initial pay of Rs 50/- p.m. in grade 35-5½-80 to the diploma holders in Civil, Mechanical and Electrical Engineering

Order thereon.—No.

entertained as Sub Overseers in the PW dept.

2. G.O. No. E. 1794-98/R&P.S. 50-45-2, directing that the students who pass out of the Sri Jaya Chamarajendra Occupational Institute, after completing their

May this be—

(i) printed?

(ii) treated as a standing order?

(iii) published in the Gazette, English Part?

(iv) translated?

(v) placed at the disposal of the Press?

(vi) published in the Gazette, Kannada Part?

Diploma Course in Civil Draftsmanship are eligible for appointments as Draftsmen in all offices of the State.

3. Letter NO 4128 dated 2-4-1947 from the Superintendent, Sri Jaya Chamarajendra Vocational Institute, stating that the Diploma Course of Draftsmanship of that Institute includes all the subjects prescribed for the diploma Examination in Civil Engineering conducted in the School of Engineering, Bangalore, that the students who pass out of that Institute would not only have attained the same standard of knowledge and efficiency as those passing out of the School of Engineering but also in Drawing, Architecture &c., and recommending that the diploma holders in Civil Draftsmanship of that Vocational Institute may be given the same starting pay viz Rs 50/- p.m. as in the case of diploma holders of the

List of Enclosures

Copied by

Examined by.

G. R. S. App. F. G. 3.

GENERAL AND REVENUE SECRETARIAT.

(*Continuation sheet draft form.*)

School of Engineering
Kanyatta
4. No note No 385 dated
8.5.1947 from the Chief Engineer
Roads & Building in the Subject
5. No note dated 17.5.1947
from the Vice-Chancellor, the
University of Ceylon, stating that
the Diploma Course in the Civil
Engineering of the School of
Engineering, Kanyatta and the
Diploma Course in the Civil
Draftsmanship of the Sri
Jayachamarajendra Technical
Institute, Kanyatta are almost
identical

Order, thereon No 94 Dated

Govt are pleased to
direct that the Diploma holders
in Civil Draftsmanship of the
Sri Jayachamarajendra Technical
Institute be treated as on a
par with the diploma holder
of the School of Civil Engineering

WD 0436—GPB—10,000—17-10-33

Bangalore and granted
an initial pay of Rs 50/-
in grade Rs 40-5/2-85 when
entertained as Asstt draftsmen, in
pending orders on the recommendations
of the Pay Commission.

Secy to Govt, 2.7.47 HPS 2.7.47
PW depts

To

The CE for Irrigation, The C.E., R&B.
The Supdg. Engr. T.C.D.I. Bangalore
The Comptr. of Accts
The Auditor PW depts. } Thro' H Secrt
The Heads of Accts Tabulation Cmnr
Press Table
Comptroller Branch.
150 copies will be got printed.

B
1/7/47.

Secy
1-7-47

GOVERNMENT OF HIS HIGHNESS THE MAHARAJA OF MYSORE.

PUBLIC WORKS DEPARTMENT.

G. O. No. P. W. 624-28—Est. 11-46-23, dated 11th July 1947.

Assistant Draftsmen.

Sanctions the grant of an initial pay of Rs. 50 to the Diploma holders in Civil Draftsmanship of the Sri Jayachamarajendra Occupational Institute when entertained as — .

READ—

Government Order No. P. W. 6295-310—Est. 19-45-12, dated 27th March 1946, sanctioning among other things, the grant of an initial pay of Rs. 50 per mensem in grade Rs. 35–5/2–80 to the Diploma holders in Civil, Mechanical and Electrical Engineering, entertained as Sub-Overseers in the Public Works Department.

2. Government Order No. E. 1794-98—R. & P. S. 50-45-2, dated 9th August 1946, directing that the students who pass out of Sri Jayachamarajendra Occupational Institute, after completing their Diploma Course in Civil Draftsmanship are eligible for appointment as Draftsmen in all offices of the State.

3. Letter No. 4128, dated 2nd April 1947, from the Superintendent, Sri Jayachamarajendra Occupational Institute, stating that the Diploma Course of Draftsmanship of that Institute includes all the subjects prescribed for the Diploma Examination in Civil Engineering conducted in the School of Engineering, Bangalore, that the students who pass out of that Institute would not only have attained the same standard of knowledge and efficiency as those passing out of the School of Engineering but also in drawing, architecture, etc., and recommending that the Diploma holders in Civil Draftsmanship of that Occupational Institute may be given the same starting pay, *viz.*, Rs. 50 per mensem as in the case of Diploma holders of the School of Engineering, Bangalore.

4. U. O. Note No. 385, dated 8th May 1947, from the Chief Engineer, Roads and Buildings, on the subject.

5. U. O. Note dated 17th May 1947, from the Vice-Chancellor, the University of Mysose, stating that the Diploma Course in the Civil Engineering of the School of Engineering, Bangalore and the Diploma Course in the Civil Draftsmanship of the Sri Jayachamarajendra Occupational Institute, Bangalore, are almost identical.

ORDER THEREON No. P. W. 624-28—EST. 11-46-23, DATED BANGALORE, THE 11TH JULY 1947.

Government are pleased to direct that the Diploma holders in Civil Draftsmanship of the Sri Jayachamarajendra Occupational Institute be treated as on a par with the Diploma holders of the School of Civil Engineering, Bangalore and granted an initial pay of Rs. 50 in grade Rs. 40–5/2–55 when entertained as Assistant Draftsmen, pending orders on the recommendations of the Pay Commission.

B. S. NARASINGA RAO,
Secretary to Government,
Public Works Department.

To—The Chief Engineer for Irrigation in Mysore.
The Chief Engineer for Roads and Buildings.
The Superintendent, Sri Jayachamarajendra Occupational Institute, Bangalore.
The Comptroller to Government through the Financial Secretariat.
The Auditor, Public Works Department through the Financial Secretariat.
The Public Service Commissioner in Mysore.
PRESS TABLE.

EXD.—T. N. S.

WD 77 –GPB—420—28-7-47